



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE SYNONYMY OF THREE AMERICAN HEPATICAE.

ALEXANDER W. EVANS.

The Lindenberg herbarium of Hepaticae, now preserved in the Natural History Museum at Vienna, is justly famous for its richness in original material, many of the species described in the Synopsis Hepaticarum (1844-47) being represented by complete or partial type specimens. During the summer of 1907 Dr. C. von Keissler, who was then in charge of the collection, kindly gave me permission to examine it and to take notes upon a number of genera in which I was especially interested. As a result of this study I have reached conclusions with regard to a few species which are somewhat at variance with those accepted by other recent writers. They disagree in fact with views which I myself have previously held. One of these species, *Lejeunea uncioloba* Lindenb., has already been discussed in another paper.¹ The three species noted below are *Lejeunea laete-virens* Nees & Mont., *L. clausa* Nees & Mont., and *Frullania obcordata* Lehm. & Lindenb. Under each of these it becomes necessary to reduce to synonymy one or more species which are usually recognized as valid.

LEJEUNEA LAETE-VIRENS.

This species was based upon Cuban specimens collected at Havana by Ramon de la Sagra, and in the Synopsis Hepaticarum a second specimen from the island of Dominica is quoted, the collector's name being omitted. Stephani refers the species to the subgenus *Eu-Lejeunea* and cites both of these specimens as authentic. Both are represented in the Lindenberg herbarium, and upon studying them I found that they not only agreed with each other but that they were quite indistinguishable from the plant which I had recently described and figured as *Microlejeunea lucens* (Tayl.) Evans.² Since *Lejeunea lucens* Tayl. was published a year later than *L. laete-virens*, it must unfortunately become a synonym of the latter species. Another plant which should apparently also be reduced is *L. glaucophylla* Gottsche, originally described from sterile material collected by Beaupertuis on the island of Guadeloupe. Although the type specimen is not to be found in the Lindenberg collection the species is represented there by another Guadeloupe specimen from L'Herminier, determined by Gottsche himself. This agrees closely with Gottsche's description and figures of *L. glaucophylla* and also with the specimens of *L. laete-virens*. In *L. glaucophylla* to be sure the underleaves are said to be entire on the sides whereas in *L. laete-virens* they are sometimes unidentate. The teeth, however, are far from constant, and it is quite easy to select stems from a tuft of *L. laete-virens* where the sides of the underleaves are uniformly entire. The specimens from the Southern States which Austin many years ago referred to *L. laete-virens* are too fragmentary for positive determination but clearly represent some other species. The synonymy of *L. laete-virens*, as I now understand the species, is as follows:

¹ Torreyia 7: 225-229. 1908.

² Bot. Gazette 1: 36. 1876.

Microlejeunea laete-virens (Nees & Mont.) comb. nov.

Lejeunea laete-virens Nees & Mont. in Ramon de la Sagra, Hist. Fis.

Pol. y. Natur. Cuba 9: 281. 1845.

Lejeunea lucens Tayl. Lond. Jour. Bot. 5: 399. 1846.

Lejeunea glaucophylla Gottsche, Ann. des Sc. Nat. IV. 8: 28. pl. 9, f. 15-17. 1858.

Lejeunea (*Micro-Lejeunea*) *lucens* Spruce, Hep. Amaz. et And. 288. 1884.

Lejeunea (*Eu-Lejeunea*) *lucens* Steph. Hedwigia 29: 84. 1890.

Lejeunea (*Eu-Lejeunea*) *laete-virens* Steph. l. c. 29: 87. 1890.

Microlejeunea lucens Evans, Mem. Torrey Club 8: 157. pl. 21, f. 1-10. 1902.

On trees and rocks. Type locality: Havana, Cuba (Ramon de la Sagra)-Virginia, south to Florida and west to Louisiana. Also widely distributed in tropical America, especially at low elevations.

LEJEUNEA CLAUSA.

The original material of this species was collected by Leprieur at the base of "Mount Serpent" in French Guiana. The authors described the vegetative organs only, apparently assuming that the specimens were sterile throughout. Their figure shows an unbranched fragment of a single stem and represents the underleaves as being duplicated, this appearance being due to faulty drawing. In the Synopsis Hepaticarum the type specimen is quoted and a variety β , based on a Brazilian plant collected by Bongard near Rio de Janeiro, is also described. Stephani recognizes the validity of *L. clausa* and refers it to the subgenus *Cheilo-Lejeunea*, but he separates the variety β and considers it synonymous with *L. (Euosmo-Lejeunea) parvistipula* Lindenh. & Gottsche. He bases his opinion on the specimens in the Lindenberg herbarium, which I have also examined. I find that Leprieur's material is represented by a number of female plants without perianths. In the majority of cases the inflorescences are borne on short innovating branches which may be once or twice floriferous; in rarer instances they are borne on leading branches. Upon comparing these plants with the typespecimens of *L. opaca* Gottsche, collected by Splitgerber in Surinam, I find that they agree in all essential points and thus necessitate the reduction of the latter species to synonymy. The identity of *L. clausa* and *L. opaca* was suspected many years ago by Spruce but he afterwards considered them distinct. *L. opaca* is also regarded as a valid species by Stephani and by Schiffner, both of whom refer it to *Euosmolejeunea*, and I myself have recently described and figured it as *E. opaca*.³ A portion of the original material of the variety β shows several male inflorescences, which occupy short branches as in *L. clausa*. The underleaves are very variable but, while some of them are small and squarrose as described in the Synopsis, others are larger, appressed to the stem, and more or less cordate at the base. These larger underleaves, which are undoubtedly the more normally

³ Mem. Torrey Club 8: 139. pl. 19, f. 1-11. 1902.

developed, agree closely with those found in typical *L. clausa*. I would therefore retain the variety β as a form of this species, hardly distinct enough to deserve a varietal name.

Two other species which should also be included among the synonyms of *L. clausa* are *L. commutata* Gottsche, and *L. lutea* Mont. The first of these has already been reduced by Stephani, and a portion of the type from the Nees von Esenbeck herbarium, although sterile and fragmentary, fully supports his view. *L. lutea* was described from Cuban material collected by Ramon de la Sagra and is regarded as a valid species of the subgenus *Euosmo-Lejeunea* by Stephani. I find a few fragments of the type in the Lindenberg herbarium, one of which bears a single female inflorescence, but can discover no characters which would warrant a separation from *L. clausa*. The fact that Stephani refers *L. clausa* to *Cheilo-Lejeunea*, while he places *L. opaca* and *L. lutea*, which I am unable to separate from *L. clausa*, in *Euosmo-Lejeunea* makes it evident that the relationship between these two groups is unusually close. At the same time it seems to me that *L. clausa* has more in common with *Euosmolejeunea* than with *Cheilolejeunea* and would therefore give its synonymy as follows:

***Euosmolejeunea clausa* (Nees & Mont.) comb. nov.**

Lejeunea clausa Nees & Mont. in Montagne, Ann. des Sc. Nat. II. 14: 337. pl. 20, f. 3. 1840.

Lejeunea opaca Gottsche in G. L. & N. Syn. Hep. 362. 1845.

Lejeunea commutata Gottsche, l. c. 380. 1845.

Lejeunea lutea Mont. l. c. 383. 1845.

Lejeunea (*Omphalanthus*?) *Mohrii* Aust. Bull. Torrey Club 6: 20. 1875.

Lejeunea (*Euosmo-Lejeunea*) *opaca* Spruce, Hep. Amaz. et And. 242. 1884.

Lejeunea (*Euosmo-Lejeunea*) *laxiuscula* Spruce, l. c. 244. 1884.

Lejeunea (*Cheilo-Lejeunea*) *clausa* Steph. Hedwigia 29: 80. 1890.

Lejeunea (*Euosmo-Lejeunea*) *lutea* Steph. l. c. 29: 86. 1890.

Lejeunea (*Euosmolejeunea*) *clausa* Spruce, Jour. Linn. Soc. Bot. 30: 346. 1894.

Euosmolejeunea opaca Steph. Bihang Svenska Vet.-Akad. Handl. 232: 13. 1897.

On trees, rotten logs, and rocks. Type locality: French Guiana (Leprieur). Florida and Alabama. Also widely distributed in tropical America

FRULLANIA OBCORDATA.

The material upon which *Frullania obcordata* was based was collected in "Guiana" and sent by Hooker to Lehmann. Two specimens, evidently portions of the type, are present in the Lindenberg herbarium and show an autoicous inflorescence with numerous perianths and short male spikes. They fully agree with the plant from the Southern States which Sullivant described as a new species under the name *F. caroliniana*. This species must therefore be reduced to synonymy, although it has been more or less

widely recognized as valid. Austin, in fact, made the reduction many years ago but considered the American species a variety of the African *F. brunnea* Spreng.¹ When I revised the Frullaniae of North America, north of Mexico, I was able to show that *F. caroliniana* was different from *F. brunnea*,² but as I then had no authentic specimens of *L. obcordata* for comparison I attempted to maintain our southern plant as distinct and described and figured it under Sullivant's name. It is now evident that the type specimens confirm Austin's conclusions at least in part. Another species which I would also reduce to *F. obcordata* is *F. Martiana* Gottsche, based on Brazilian specimens collected by von Martius. The material at Vienna shows more of the lobules explanate than is normal in *F. obcordata*, but this peculiarity, which is dependent upon external conditions, is not supported by any other differences of importance. The specimens also agree in being autoicous. The synonymy of *F. obcordata* follows:

FRULLANIA OBCORDATA Lehm. & Lindenb. in G. L. & N. Syn. Hep. 447. 1845.
Jungermannia obcordata Lehm. & Lindenb. in Lehmann, Pug. Plant.
6: 51. 1834.

Frullania Martiana Gottsche in G. L. & N. Syn. Hep. 448. 1845.

Frullania caroliniana Sulliv. Amer. Jour. Sci. and Arts II. 1: 74. 1846.

On trees. Type locality: Guiana (collector unknown). Florida to Louisiana. Also widely distributed in tropical America.

YALE UNIVERSITY.

1 Hep. Bor. Amer. 105 e. 1875.

2 Trans. Conn. Acad. 10: 33. pl. 15. 1897.